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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,144	03/05/2002	Victor Markowitz	4009US (43413-276314)	7128

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EXAMINER

SKIBINSKY, ANNA

ART UNIT	PAPER NUMBER
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1631

DATE MAILED: 12/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/090,144

Applicant(s)

MARKOWITZ ET AL.

Examiner

Anna Skibinsky

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-12 and 15-19 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 13, 14, 20 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/6/03/ 9/13/02
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Applicants' arguments, filed February 17, 2005, have been fully considered but they are not deemed persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4, 5, 8, 11, 12, 15, 18, and 19 stand rejected under 35 U.S.C. 102(b) as being anticipated by Bassett et al. for reasons of record.

Claims have been amended to recite acquiring and staging gene expression data for storage, storing the gene expression data in a data warehouse comprising three distinct databases, a clinical database for storing sample data, and a fragment index database for storing biological information and gene sequences for DNA. The staging comprises linking gene expression measurements with sample data in the gene expression and clinical databases, respectively.

Applicant argues that a data warehouse is different from the database taught in Bassett et al. and in the Remarks recites that a Data Warehouse is “a copy of transaction data specifically structured for querying and reporting.” This argument is not persuasive. Bassett et al. teach a database as well as a Data warehousing (pg. 53, col. 1, line 15). Two structures are equated (i.e. “database or ‘data warehouse’”) because a combination of databases remains a database. It is well known in the art that a database is a collection of files. Examiner acknowledges that a data warehouse is the combination different databases (Remarks of 2/17/05, pg. 12, lines 8-9).

As pertaining to data warehouses, Bassett et al. write that “Data from multiple sources have been integrated” to form a single data model (page 53, col. 1, lines 17-19), which fulfills the underlying concept and definition of a data warehouse. In the section “Data integration”, (page 51, col 2, last paragraph) Bassett et al. specifically recited that databases such as GenBank, Entrez, and Blast, and that a “GenBank-like public database ... integrated with MEDLINE, Entrez, and other data tools ...” Entrez is recited because it can be linked with experimental information about genes on arrays and MEDLINE, a database of review articles (page 54, last paragraph of col. 1 to col. 2, line 7). Thus, this is a clear illustration of the integration of several databases to form one type of data warehouse. Additionally, in Figure 2 (pg. 53, caption lines 7-8) it is taught that microarray experiments can be “clustered” along with gene expression data. This is another example of information from different databases being combined into one database. Furthermore, visualization techniques linked to sequence databases (pg 54, col. 2, last paragraph) are recited, which illustrates the linking of databases.

The rational database is described in the specification (pg. 30 line 20 to pg. 32 line 5) and meets the limitations of databases such as GenBank as taught in Bassett et al. Additionally, the specification does not limit data warehouses (recited in the claims) to only those consisting of rational databases. Thus, the data warehouse, as described by Bassett et al. meets the limitations of data warehouse in the instant claims.

Applicants have amended claim 1 to recite "wherein the gene expression data comprises hybridization experiment data." However, the previous Detailed Action filed on February 17, 2005 recites that Bassett et al. teaches a data warehouse containing hybridization data (pg 6, line 10 of Action and page 53, col. 2, line 14 of Bassett et al.)

NEW MATTER

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 8, and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The "staging of gene expression data for storage" and that "staging comprise linking gene expression measurements in the gene expression database with sample data in the clinical database and information in the fragment index database" are not directly taught in the specification. There appears to be no basis in the original specification as filed and applicant has failed to point out the basis from the specification.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-5, 8-12, and 15-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Bassett et al. as applied to claims 1, 4, 5, 8, 11, 12, 18, and 19 above in further view of Gopalikrishnan et al. (1999).

Bassett et al. fails to specifically recite a data warehouse constructed in a star relational schema (claims 2, 9, and 16) or a snowflake relational schema (claims 3, 10, and 17). However, Gopalikrishnan et al. describes the construction of a data warehouse in a star relational schema (page 15, lines 1-5; and Figures 2).

It would have been obvious to someone of ordinary skill in the art at the time of the invention to practice Bassett et al. in view of Gopalikrishnan et al. who indicate that a star or snowflake relational schema are popular representations of relational systems (pg. 11, lines 1-4).

Applicant's arguments are not persuasive because it would be obvious to one ordinarily skilled in the art to apply star or snowflake relational schema to type the type of data warehouse taught in Bassett et al. which is not a consolidation of data from separate data sources. Furthermore, Fig. 1 shows the integration of data sources (as described, pg. 12, lines 2-3), in other words, the joining or uniting of data sources. Such data sources can be distinct databases as in the instant claims.

OBJECTIONS

Claims 6,7, 13, 14, 20, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anna Skibinsky whose telephone number is (571) 272-4373. The examiner can normally be reached on 8 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ardin Marschel can be reached on (571) 272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MARY K. ZEMAN
PRIMARY EXAMINER
AW 1031
11/30/05